



IV Jornadas Lusófonas de Nutrição

Lusófona Nutrition Conference IV

Book of abstracts

15th March 2024

Auditório Agostinho da Silva

Universidade Lusófona – Centro Universitário de Lisboa

Portugal



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para o Desenvolvimento da Investigação
e Ensino em Ciências da Saúde



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Welcome Message

On behalf of the Organization Committee for the *IV Jornadas Lusófonas de Nutrição*, we are pleased to invite you to this event, which will be held in Lisbon (Portugal), on **March 15th** (Auditório Agostinho da Silva, Universidade Lusófona – Centro Universitário de Lisboa).

The *IV Jornadas Lusófonas de Nutrição* is an academic event that aims to analyze several emerging themes in the area of nutrition sciences, highlighting the importance of nutritionists in their most distinct areas of activity, with special attention on the role of nutritionists' clinical practice, sports and child nutrition, and politics.

This event has the participation of several specialists in clinical nutrition, public health, and other specialties, so the presence of nutritionists, researchers, doctors, nurses, pharmacists, food engineers, and other health professionals and the agri-food industry is of particular interest.



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Practical information

IV Jornadas Lusófonas da Nutrição (March 15th, 2024)

Conference venue

The conference venue will be at the Auditório Agostinho da Silva, Universidade Lusófona – Centro Universitário de Lisboa.

Language

Portuguese is the official language of the congress.

Contact details

Escola de Ciências e Tecnologias da Saúde,
Universidade Lusófona – Centro Universitário de Lisboa
Av. Campo Grande 376, 1749-024 Lisboa
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Scientific information

Oral communications

The congress has a large number of oral presentations covering several topics of nutrition and dietetics.

The oral communications are divided into:

- Plenary sessions (30 minutes).
- Flash communications (10 minutes).

Some time for scientific discussion is included in all the above sessions.

Poster communications

Poster sessions will be held in the congress, allowing the exchange of ideas and networking between all the congress participants.

The maximum size for the posters is A0 (841 mm x 1189 mm). The poster will be presented in a digital format.



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Detailed scientific program

09h00: Cerimónia de Abertura

Administração Universidade Lusófona
Reitoria Universidade Lusófona
Direção da Escola Ciências e Tecnologias da Saúde
Professor Doutor Luís Monteiro Rodrigues
Bastonária da Ordem dos Nutricionistas
Dr^a. Liliana Sousa
Direção da Licenciatura de Ciências da Nutrição
Professora Doutora Cíntia Ferreira Pêgo

09h30: Nutrição na Prática Clínica

(Moderação: Professora Doutora Emília Borba Alves)

Nutrição no Doente Crítico

Dr^a. Liliana Sousa, Bastonária da Ordem dos Nutricionista

Nutrição e Hipertensão

Dr. Fernando Pinto, Sociedade Portuguesa de Hipertensão (SPH)

Nutrição e Diabetes

Professor Doutor Rogério Ribeiro, Associação Protetora dos Diabéticos de Portugal (APDP)

Nutrição e Saúde Cardiovascular

Dr^a Tatiana Fontes, Research Center for Biosciences and Health Technologies (CBIOS)

11h30: Coffee break

12h00: Nutrição Materno-Infantil

(Moderação: Professora Doutora Cíntia Ferreira Pêgo)

Alergias alimentares

Professora Doutora Inês Pádua, Coordenadora da Licenciatura em Ciências da Nutrição CESPU

Diversificação alimentar e *Baby Lead Weaning*

Enf. Maria Fernandez, Enfermeira Especialista em Saúde Materna e Obstétrica, Especialista em BLW

13h00: Almoço

14h00: Políticas Nutricionais: O presente e o futuro em Portugal e na Europa (Mesa Redonda)

(Moderação: Professor Doutor João Grgório)

Dr. Francisco Guerreiro, Eurodeputado pelo grupo dos Verdes/Aliança Livre Europeia (Verdes/ALE) no Parlamento Europeu, desde 2019



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Flash-talks:

1. Targeting IAPP Aggregation as a Nutritional Approach for Diabetes Management: Exploring Urolithin B-Mediated Protection - Sofia Ferreira
2. The potential of a polyphenol-rich diet in the development of renal cancer: insights from in vitro studies - Irís Guerreiro
3. Patient's expectations of the bariatric surgery process: a contribution to design new interventions - Cláudia Mendes

15h30: Coffee break

16h00: Nutrição e Suplementação no Desporto

(Moderação: Professora Doutora Marta Esgalhado)

Nutrição no desenvolvimento do atleta infantil

Dr^a. Maria Roriz, Coordenadora do departamento de nutrição FC Porto *Dragon Force*

Consumo de suplementos alimentares em ginásios

Dr. João Ruano, Nutricionista na área do desporto

Suplementos alimentares: consumo e perceção de segurança em atletas recreativos

Dr^a. Sofia Lopes, Research Center for Biosciences and Health Technologies (CBIOS)

17h30: Entrega de prémios e encerramento



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Flash communications abstracts

FC 1: Targeting IAPP Aggregation as a Nutritional Approach for Diabetes Management: Exploring Urolithin B-Mediated Protection

Sofia Ferreira^{1,2}, Ana Filipa Raimundo^{3,4,5}, Vânia Pobre⁵, Márcia Garcez³, Mafalda Lopes-da-Silva³, José Brito⁵, Daniel dos Santos¹, Nuno Saraiva¹, Catarina Homem³, Cláudia Nunes dos Santos³, Regina Menezes^{1,3}

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Diabetes stands as one of the most pressing health emergencies worldwide. Despite the therapeutic advancement, it is still linked to reductions in life expectancy. The aggregation of Islet Amyloid PolyPeptide (IAPP), a histopathological hallmark of the disease, is undisputedly relevant to the progression of diabetes due to β -cell damage. However, its exploitation as a therapeutic target remains unexplored. Several strategies have been attempted to prevent aggregation of amyloidogenic proteins. (Poly)phenols, natural compounds found in dietary sources, are referred to mitigate toxic protein aggregation.

In this study, different classes of (poly)phenol-derived metabolites described to be present in human circulation after the consumption of (poly)phenol-rich matrices were screened *in silico* for possible interactions with IAPP. Urolithin B (UroB), a metabolite produced by the gut microbiota following the ingestion of ellagitannins-rich foods (e.g. pomegranate, strawberry, red raspberry, and walnut) showed promising results. Cell-free studies revealed that UroB modulates aggregation kinetics of IAPP and alters the size and morphology of amyloid fibrils. In the pancreatic β -cell line INS-1 832/3 challenged with *in vitro* pre-formed IAPP aggregates, this compound ameliorated IAPP-induced cytotoxicity primarily through mechanisms associated with redox homeostasis, calcium intracellular mobilization, and mitochondrial respiration. Consistent with the pivotal role of calcium signaling in insulin secretion, UroB improved insulin secretion in response to hyperglycemia.

Concluding, UroB protects β -cells by modulating IAPP amyloid formation. In the cellular milieu, this metabolite improves cellular proteostasis mechanisms allowing β -cells to better cope with IAPP burden. Being UroB a bioavailable metabolite derived from the consumption of ellagitannin-rich foods, this study may open new venues for the exploration of dietary strategies contributing to diabetes control.



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FC 2: The potential of a polyphenol-rich diet in the development of renal cancer: insights from in vitro studies

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FC 3: Design and development of a nurse-led program for the management of bariatric surgery patients - The NURLIFE program

Cláudia Mendes^{1,2,3,4}, Manuel Carvalho⁴, Catarina Martins⁴, Luís Monteiro Rodrigues¹, João Gregório¹

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A nurse-led case-management intervention program may improve the patients' management of the bariatric surgery process. Close collaboration with the healthcare team may improve health and facilitate the adoption of healthy lifestyles, which may enhance surgical results. Completing this project will allow the deepening and exploration of a network, including other areas of assistance, namely mental health and rehabilitation, as well as primary care.

The program's primary focus is expected to be health education and motivation for lifestyle changes, promoting healthy lifestyles and physical activity. The improvement of anthropometric data, the lessening of the metabolic risk factors, and quitting smoking and alcohol habits will also be our main achievements.

This randomized clinical trial has participants divided into two groups. We use a quantitative outcome evaluation to assess the effectiveness of the intervention and to anticipate indications for future implementation in different clinical settings. This project aims to be the first study to investigate the effect of a specialist nurse interventions on patient candidates for bariatric surgery, based on practice-based evidence, while using mixed programs, face-to-face and e-health, on the management and results of bariatric surgery. As such, the contribution of a multidisciplinary team managed by a case manager may be the most efficient intervention. The participants had to be registered for bariatric surgery at the Surgical Unit. Considering the explorative nature of the study, a formal sample size analysis is not possible. The study started in 2024. The results are expected in 2025.

Trial Registration: NURLIFE randomized controlled trial was prospectively registered at Clinicaltrials.gov (NCT06020105) on July 10, 2023.



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Poster abstracts

P1: Enhancing Nutritional Value of Bakery Products: A Study on the Use of Grape Pomace in Bread Making

Donjeta Shala¹, Anabela Amaral², Carla Palma³, Carlos Borges³, Marisa Nicolai⁴, M.L. Palma^{4*}, Paula Pereira^{4,5,6}, Ana Margarida Marques^{7,8}, Olga Amaral^{2,8}

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In the contemporary bakery industry, there's a vast selection of breads. Given the significance of bakery products in global diets, enriching them with nutritious ingredients like grape pomace could enhance health and disease prevention. Grape pomace, a winemaking byproduct, is currently applicable in cookies, muffins, wheat biscuits, and bread.

Our study used grape pomace from organically grown Syrah grapes (*Vitis vinifera* L.), incorporated into bread at 5%, 10%, 15%, and 20% concentrations, compared against a control. Our aim was to quantify metals, semi-metal, and non-metals to identify macro and micronutrient constituents in these bread samples.

Analytical methods involved UV/visible spectroscopy for ammonia, nitrates, and extractable phosphorus, using specific colorimetric methods implemented in a Skalar SANplus Segmented Flow Auto-Analyzer. Metal concentrations (Al, Cd, Cr, Cu, Fe, Li, Mn, Ni, Pb, Zn) were determined through atomic absorption spectrometry in a Solaar-Thermo elemental analyser post-microwave digestion. Additionally, micro and macronutrient elements were quantified using portable X-ray Fluorescence (XRF), applying the beam for 50 seconds in triplicate.



The UV/visible spectroscopy results, in mg/kg, showed ammoniacal nitrogen ranging from 55 to 75, nitrates, and phosphorus from 600 to 750. Atomic absorption revealed Mn at 7.53 to 16.90 mg/kg, Fe from 17.50 to 60.90 mg/kg, As below 0.05 mg/kg, Cd less than 0.50 mg/kg, Pb under 10 mg/kg, Cu below 5.00 mg/kg, Cr under 5.00 mg/kg, Hg below 0.08 mg/kg, Ni below 7.50 mg/kg, and Zn between 12.60 and 10.70 mg/kg. XRF analysis indicated, in ppm, P (1276 to 1594), K (4812 to 16411), Ca (693 to 2174), Mn (55 to 75), Fe (47 to 93), Cu (10 to 17), Rb (3 to 7), and Sr (3 to 6).

The results demonstrate the linear correlation between the levels of copper, manganese, and iron detected via XRF and atomic absorption spectroscopy methods in grape pomace flour. The samples with a higher percentages of grape pomace flour incorporation, there are a notable increase in the concentration of Fe, Mn, Cu, K, Ca, and P.

P2: Brewer's Spent Grain Valorization: Impact on the texture and color properties of wheat-based cookies

Ricardo Reis¹, Rúben Amaro¹, Elisabete Maurício^{2,3}, Patrícia Branco², Carla Palma⁵, Adília Charmier², Pedro C.B. Fernandes², Joaquim Silva², Maria Cristiana Nunes⁴, Maria Lídia Palma³, Marisa Nicolai³, Paula Pereira^{1,3,8}

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Beer is the most widely consumed beverage globally, with a production volume ranging from 1.3 to 1.9 billion hectoliters over the last two decades [1]. During beer production, brewer's spent grain (BSG) is generated, a byproduct accounting for 85% of total waste [2]. This raw



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material, mainly composed of layers of seed husk, pericarp, and malted barley husk, is rich in proteins, lipids, fiber and significant amounts of vitamins and minerals. It is a highly attractive and economically viable raw material with great potential in applications such as animal feed, fertilizers, human diets and as source of nutrients for microbial-based production of added value goods and bioenergy.

This work aims to explore the potential applications of BSG in the food sector by manufacturing biscuits incorporating different proportions BSG, namely 50% and 75%, relative to the total flour (wheat + BSG) quantity.

The work performed assessed physical properties such as texture (hardness measured by a puncture test in a texturometer), moisture, water activity, and color (CIELAB system).

In texture analysis, hardness increased noticeably with BSG incorporation, which can be ascribed to the high titers of fibers and proteins in BSG. Both moisture content and water activity decreased with BSG incorporation, which contributes to increase shelf-life. Cookies became darker with BSG incorporation as L^* values decreased relative to the control. The total color difference (ΔE^*) of 21 and 23 was observed for 50% and 75% BSG incorporation relative to the control. Moreover, color difference between 50 and 75% BSG incorporation was also noticeable to the naked eye (>5).

These characteristics, coupled with the environmental, and economic benefits, underscore the potential of BSG as a valuable and sustainable resource in the food industry.

References:

[1] Statista Beer Production Worldwide from 1998 to 2021. Available online: <https://www.statista.com/statistics/270275/worldwide-beer-production/> (accessed on February 21, 2024)

[2] Mussatto, S. I., Dragone, G., & Roberto, I. C. (2006). Brewers' spent grain: generation, characteristics, and potential applications. *Journal of Cereal Science*, 43(1), 1-14. <https://doi.org/10.1016/j.jcs.2005.06.001>



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P3: The potential role of dietary (poly)phenols in diabetes

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The impact of a healthy diet is particularly important in diabetes and can decrease the risk of developing type 2 diabetes. Recently, the health-promoting effects of dietary (poly)phenols in diabetes have gained increasing interest due to their potential anti-diabetic effects, particularly in glucose homeostasis. (Poly)phenols, present in various food sources such as fruits, vegetables, tea and coffee, have been explored for their bioactivity towards different mechanisms. Most of the physiological effects of these compounds are mediated by their ability to modulate nutri(epi)genomic mechanisms involving interactions with proteins and transcription factors (TFs). However, the mechanism of action of (poly)phenol metabolites, the bioavailable molecules resulting from the metabolism of complex (poly)phenols by the colonic microbiota, is still largely unknown. Clarifying the link between (poly)phenols bioactivity and genomic changes can bring new insights into the potential of these compounds in the prevention and management of diabetes.

This study aimed to explore the multigenomic effects of different dietary (poly)phenols and their metabolites, to identify modulatory networks associated with diabetes. Hence, available human, animal and in vitro data on gene expression modulated by phenolic compounds or (poly)phenol-enriched extracts were collected. Differentially expressed genes and proteins were used for functional analyses resorting to various bioinformatics tools.

The analyses suggested that (poly)phenols can modulate cell signaling pathways, endocrine resistance, immune system, and apoptosis, among other processes. Additionally, this regulation may occur by interaction with several TFs. Interestingly, in-silico 3D docking analyses revealed potential interactions between specific TFs and the main (poly)phenol metabolites, with flavonoids having the best interaction activity with most of the proteins. The integrative analysis of (poly)phenols data on different levels demonstrates the potential of these molecules for nutraceutical strategies for diabetes management.

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P4: Domestic food environment and the Mediterranean dietary pattern in children aged 5 to 10 years old

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Adherence to the Mediterranean dietary pattern contributes to maintaining a healthy nutritional status and consequently helps to prevent various non-communicable chronic diseases (1-4). The main aim of the study was to understand how the domestic food environment in a person's childhood influences their adherence to the Mediterranean Diet (MD). An online questionnaire consisting of 4 sections was carried out, inquiring about the sociodemographic data of the parents and the child, as well as information regarding their domestic food environment and the children's adherence to the MD, which was assessed using KIDMED. The results indicate that the majority of the sample (67%) showed high adherence to the MD. Older parents with a higher level of education, as well as a normal weight, seem to have a positive influence on their children's adherence to this dietary pattern. Furthermore, older, girls and normal-weight children tend to have a greater adherence. Finally, by analyzing the home eating environment concerning MD adherence, it was possible to infer that there was higher adherence when there was a positive parental influence. It is necessary to promote a favorable domestic food environment to increase children's adherence to the Mediterranean dietary pattern.

References:

- [1] Abdoli, M., Scotto Rosato, M., Cipriano, A., Napolano, R., Cotrufo, P., Barberis, N., & Cella, S. (2023). Affect, Body, and Eating Habits in Children: A Systematic Review. *Nutrients*, 15(15), 3343. <https://doi.org/10.3390/nu15153343>
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- [3] Oliveira, A. M. de, & Oliveira, D. S. da S. (2019). Influência parental na formação de hábitos alimentares na primeira infância – revisão da literatura. *Revista Eletrônica da Estácio Recife*, 5(2), Article 2.
- [4] Scaglioni, S., De Cosmi, V., Ciappolino, V., Parazzini, F., Brambilla, P., & Agostoni, C. (2018). Factors Influencing Children's Eating Behaviours. *Nutrients*, 10(6), 706. <https://doi.org/10.3390/nu10060706>



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P5: Characterization of the nutritional status and cardiovascular risk of children in the 1st cycle included in the Mexe-te+ Program of the Amadora Oeste-Lisbon School Group

**Maia Lima¹, Mirna Oliveira², Hugo Rodrigues³, Rui Ferreira³, Sónia Carvalho³,
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It is important to focus efforts on investigating childhood obesity, as its occurrence is associated with the predisposition of this condition in the adult population and the development of other pathologies. This study aimed to evaluate the nutritional status of children in 1st cycle of basic education from schools of the Amadora Oeste-Lisbon group

A quantitative observational cross-sectional study was developed. Anthropometric data were collected: weight, height, waist circumference (WC), and school level. BMI was calculated and nutritional status was classified according to the WHO. Cardiovascular risk was determined concerning the WC and WC/H percentile.

With a sample of 338 students, aged between 6 and 14 years old, the majority of whom were girls (56.21%), we found that 48.52% had adequate weight, 36.99% were overweight, and 12.72% obesity. Regarding cardiovascular risk, 29.29% had high values in the WC/H ratio, as well as 57.14% abdominal obesity, considering WC. We also found higher values of adequate weight (54.61%) in category A of school level and obesity (27.27%) in category C.

The high values of overweight and obesity found in this population reveal the need for more early interventions, increasing the effectiveness in reducing these conditions at young ages and in reducing other pathologies associated with obesity in young people and adults.



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P6: Evaluation of factors associated with constipation in patients followed up in clinical nutrition consultation

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Constipation is a gastrointestinal disorder that represents a serious health problem. It is characterized by difficulty in defecating, including pain and stiffness, with infrequent bowel movements, and its prevalence in the Portuguese population is estimated to be 22%. Several causes are related, such as physical activity, stress, and liquid intake. This study aimed to assess the relationship between the presence of stress, physical activity, and liquid intake, and the occurrence of constipation in patients followed up in clinical nutrition consultations. 15 individuals participated in this investigation, 13 females and 2 males, with an average age of 53.27 (16.54) years. Data were collected in person, applying ROME IV criteria for diagnosing constipation, the reduced IPAQ to assess physical activity, the PSS-10 scale to assess stress and liquid intake through the daily quantity (water, tea, coffee, natural juices, sodas, and soups in Liters (L)). Additionally, data on general and sociodemographic characteristics, weight, and height were collected. Individuals with constipation included in the present study mostly presented ($p>0.05$) a Body Mass Index >25 kg/m², lower liquid consumption (2.09 L/day), 53.30% frequent nutrition consultations for < 6 months, and the majority (60%) engaged in little physical activity. The majority of the sample (87.70%) exhibited high stress levels. Several lifestyle factors, such as stress, little physical activity, insufficient liquid intake, and infrequent nutrition consultation attendance, seem to play a relevant role in the prevalence of constipation.



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P7: The Effect of Evaluation Periods on the Dietary Patterns of Portuguese College Students

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Entering university is characterized by adapting to new challenges. The frequent academic demands can cause exacerbated levels of stress and anxiety. This study aimed to assess the eating habits of a sample of Portuguese university students during the semester evaluation period. A cross-sectional descriptive observational study was carried out with 221 Portuguese university students aged between 18 and 30. A self-reported questionnaire was used to obtain general characteristics and eating habits. Rare use of food delivery platforms was higher among students who were in the first and second years of their course. There was an increase in fruit consumption among participants with working-student status. Frequent consumption of food to relieve stress was higher among students without any status. Displaced respondents were less likely to eat meals provided by others. Female respondents were the ones who consumed the most snacks and sweets, self-catered meals, stress-relieving foods, and the most skipped meals. In conclusion, the frequent presence of inadequate eating habits on the part of students, such as low consumption of vegetables and fruit and the consumption of snacks and sweets during assessment periods, reinforces the importance of nutritional education programs at universities, with the aim of improving food choices.



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P8: Exploring the Relationship Between Eating Patterns and Mindful Eating: A Cross-Sectional Study

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Mindful Eating is the application of mindfulness to eating, encompassing emotions, thoughts, intentions, bodily and behavioural sensations. This study aimed to evaluate the relationship between eating patterns and the practice of Mindful Eating. It sought to understand whether adopting a dietary pattern that reduces or eliminates animal products is related to greater food consciousness and mindfulness. A cross-sectional study was conducted analyzing data from an online questionnaire containing characterization of the eating patterns (omnivore, flexitarian, vegetarian, or vegan) and the Mindful Eating Questionnaire (MEQ). The MEQ contains 28 questions, with higher scores meaning a higher level of Mindful Eating. The results showed that 71.2% of participants were Omnivores (n=84), 18.6% were Flexitarians, 6.8% Vegetarians and 3.4% Vegan. For the purposes of this study and to aid comparison, the Flexitarian, Vegetarian and Vegan groups were combined together as Non-Omnivores (n=34). In the MEQ there was a significant difference in the subscales 'awareness' (p-value = 0.008), 'external cues' (p-value 0.014) and the 'global score' (p-value = 0.025). It was found that adherence to typically non-traditional eating patterns appears to contribute to greater awareness of food choices. Mindless eating is at the heart of many ecological and social problems associated with modern nutritional behaviour. In contrast, increased food awareness tends to relate to changing habitual patterns of how to eat and what to eat. It is understood that these results may stem from purpose-integrated dietary control, increased awareness of food production and origin, as well as dissociation from 'automatic' behaviours and patterns related to eating. This study made an innovative contribution to highlight the relationship between eating patterns and Mindful Eating. However, there is a need for further studies to be conducted in this field.



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P9: Relationship between consumer's profile (dietary and consumption patterns) and the impact on environmental sustainability

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Environmental sustainability is a growing concern in society. Diet and consumption patterns have a major impact on sustainability. Individuals following plant-based dietary patterns are increasing, especially in Western countries aiming to promote health and environmental sustainability. The objective of the study was to identify consumer profiles regarding diet and consumption patterns and assess the relationship between them. Knowledge is crucial to promote reflection on the unsustainability of current lifestyles and encourage changes through targeted actions to raise awareness and a more sustainable, healthy, and equitable society for current and future generations.

529 participants participated in this study. Data was collected online through a questionnaire that included socioeconomic parameters (age, biological sex, academic education, household members, and income), dietary and consumption patterns (frequency of organic, local, bulk, and seasonal consumption products, recycling or reuse of packaging, and food leftovers). Statistical analysis was performed, using SPSS software, with a significance level of 0,05 and Chi-square (X^2) tests for categorical data.

The following dietary patterns were identified and classified from more to less sustainable patterns: strict vegetarian, ovo-lacto vegetarian, pescetarian, semi-vegetarian, and omnivore. Most participants (51,60%) followed an omnivore diet and 14,20% followed a strict vegetarian diet. Except for the consumption of seasonal products and reusing of leftovers to prepare new meals (that were similar in all dietary patterns) individuals following an omnivorous diet showed lower percentages of organic, local, and bulk consumption products as well as recycling or the reuse of packaging. Significant differences between all consumption variables and dietary patterns were found showing that individuals that followed a more plant-based diet have more sustainable consumption patterns.

Although all dietary patterns exhibited sustainable consumption tendencies, individuals who reported having a more plant-based dietary pattern also showed a more sustainable consumption pattern.



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P10: Exploring the Perception of Azorean Gym-goers on the Safety of Food Supplements

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P11: The Influence of Economic Inflation on Portuguese Dietary Choices

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The occurrence of the COVID-19 pandemic and the war in Ukraine has led to a worsening of the global economy and consequently triggered economic inflation. Increasing food prices could compromise the population's health since it's known that it's a determining factor for food choices.

This study aimed to evaluate the impact of economic inflation on the diet of the Portuguese population.

A cross-sectional study was designed and included 238 participants aged between 18 and 77 years. The participants were divided into three groups according to their family's monthly income.

It was observed that there was a decrease in fat consumption. Most of the families who reduced their consumption of cereals, meat and eggs, fish, and dairy products belonged to the intermediate income group. Regarding the consumption of vegetables, legumes, and fruits, the majority of participants maintained their consumption. When purchasing food, nutritional quality was the main contributing factor, followed by price.

In conclusion, inflation seems to show a direct consequence on the dietary decisions of the Portuguese population, potentially a long-term negative impacts on diet quality and lifestyle.



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P12: Sociodemographic characterization, smoking habits, alcohol consumption, and physical activity in a sample of firefighters

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In a profession as demanding as that of firefighters, it is crucial that they maintain a healthy lifestyle, given the exposure to various risk situations during the performance of their professional activities. These practices can have a direct impact, either negatively or positively, on the results of their services. The aim of this study was to characterize the sociodemographics, smoking habits, alcohol consumption and physical activity of a sample of firefighters. This is a cross-sectional study in which data collection took place between November 2023 and December 2024. An online questionnaire was disseminated with sociodemographic characterization questions and others according to the objective of the study. This study included a total of 70 responses, the majority of which were male (90%), with an average age of 39 (SD: 9.8). Around 15% of the respondents were smokers, of whom around 45.5% smoked 20 cigarettes a day and 54.5% smoked traditional tobacco and 45.5% electronic tobacco. With regard to alcohol consumption, around 42% of firefighters are not drinkers, and around 18% of them consume 2 alcoholic drinks a day. With regard to coffee, 30% of firefighters drink 3 coffees a day, and around 27% drink 2 a day. On a normal day, firefighters spend around 5 hours sitting down. In the last 7 days, firefighters spent an average of 73.3 (s.d. 106.8) minutes walking, practiced vigorous physical activity 3 (s.d. 2) days for 62.3 (s.d. 48.5) minutes; and moderate physical activity on 3 (s.d. 4) days, for 59.2 (s.d. 74.4) minutes). These results highlight the importance of promoting healthy habits and physical activity among firefighters in order to improve their health and general well-being.



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P13: Relationship between the Socioeconomic Power of a Random Sample of the Portuguese Population and the Impact of Animal Food Consumption on the Environment

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Sustainability has become a growing concern worldwide. Livestock production is one of the main threats to the environment, accounting for around 18% of greenhouse gas emissions. The socio-economic power of the population under study is relevant, since it is the main cause of divergence, in terms of quantity, in household food consumption.

This study aimed to assess the consumption of food of animal origin and its impact on the environment, considering the net income per family unit of the population analyzed.

The sample included 184 participants aged between 18 and 74. Socio-demographic and socio-economic data were collected, as well as data on the consumption of food of animal origin, through a brief Food Frequency Questionnaire, which included images of the foods considered, illustrating real quantities.

Significant differences were observed between egg consumption and the 3 different economic groups, whose monthly monetary values per family unit correspond to <1800€; 1800€-2700€; >2700€, with eggs being consumed in greater quantities by individuals with lower economic capacities. When comparing the male and female genders, statistically significant results were obtained between the daily consumption of beef, ham, ham, and chicken meat, which were consumed in greater quantities by the male sex. Concerning the daily consumption of the foods considered and the BMI of the individuals, those with a higher BMI consumed greater quantities of foods such as pork and fish.

There is a need to promote and implement new food policies, with a view to sustainability and taking socio-economic power into account. The dietary pattern of the population under study is not in line with nutritional recommendations, since there is a higher consumption than the food available as determined by the BAP and the IAN-AF.



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P14: Image Perception and Body Composition: The relationship between Nutrition Science students

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P15: Evaluation of food label knowledge in a sample of Portuguese adults

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The correct reading of food labels (FL) plays a crucial role in the adoption of a healthy diet, which is one of the main factors in preventing chronic diseases [1]. This cross-sectional observational study aimed to assess the knowledge and perception of Portuguese adults regarding reading and interpretation of FL and to determine the factors that influence them. For that, a three-group questionnaire was created: a) sociodemographic variables; b) FL reading survey; c) determination of the participant's level of FL reading, which was classified as "insufficient", "average" or "good". This study included a sample of 301 Portuguese adults with an average age of 41,00 years (18 to 82 years), of which the majority were female (70,40%). It was possible to conclude that most participants had an average or insufficient FL reading level (55.48%), and there were positive associations between a higher FL reading level and female gender ($p=0.041$), normal weight ($p=0.028$), age below 60 years old ($p<0.001$), higher education ($p=0.001$) and healthcare professional ($p<0.001$). It was also found that most participants with an "insufficient" reading level do not consult food labels ($p<0.001$), find them difficult to interpret ($p=0.016$), consider them unimportant ($p<0.001$), and feel that they interpret them incorrectly ($p<0.001$). In conclusion, reading food labels can be influenced not only by sociodemographic variables, such as gender, weight, age group, level of education, and professional area but also by consultation habits, ability to interpret food labels, and the importance attributed to them.

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P16: The relationship between factors influencing health status, nutritional status, and adherence to the Mediterranean dietary pattern in a sample of firefighters

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By acknowledging the significance of factors such as proper nutrition, physical activity, and mental well-being, firefighters can enhance their personal welfare and life quality. This not only benefits firefighters individually but also enhances their capacity to effectively carry out their professional responsibilities. This study aims to explore the relationship between the factors affecting health status, nutritional condition, and adherence to the Mediterranean food pattern (MFP) within a firefighter sample. This is a cross-sectional study, conducted between November 2023 and January 2024. The questionnaire comprised questions related to sociodemographic profiling and a query about the factors influencing firefighters' health. Participants were presented with 11 response options and asked to select three factors. To assess adherence to the MFP, the Mediterranean Diet Adherence Screener was employed. The study encompassed a total of 70 responses, with the majority being male (90%), and an average age of 39 years old (SD: 9.8). Among them, 53.6% have been engaged in firefighting for over 18 years. Approximately 70% of firefighters were overweight, with the mean Body Mass Index (BMI) being 26.3 (SD: 3.5) kg/m². The mean adherence to the MFP was 7.9 (SD: 2.1). Among the key factors identified by respondents as having a significant impact on their health, "Diet" (88.6%), "Alcohol consumption" (62.9%), and "Stress" (35.7%) were prominently mentioned. It was observed that firefighters with lower BMI cited environmental factors as one of the primary influencers of their health compared to their counterparts. Firefighters with higher adherence to the MFP cited engaging in physical activity/exercise as one of the main influencers of their health compared to their counterparts. No relationships were found between the factors influencing health and the firefighters' sex or income. These results underscore the importance of addressing specific health-related factors within firefighting communities to promote overall well-being and optimize professional performance.



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P17: Patients' expectations of the bariatric surgery process: a contribution to design new interventions

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Bariatric surgery is the surgical treatment for obesity with the highest success rate. However, patients' and professionals' perceptions and expectations are often misaligned, contributing to poorer surgery outcomes. Thus, this study aimed to identify patients' and health professionals' perceptions of the bariatric surgery process.

This study was conducted in a bariatric surgery center in south Portugal. Seven health professionals participated in one focus group and sixteen patients participated in one of three focus groups. The patients' focus group script had 11 open main questions with follow-up questions to probe for more information and addressed motivations, experiences with the pre-surgery and post-surgery process, and lifestyle changes. Each focus group was audio-recorded and had a mean duration of 45 minutes. Records were transcribed verbatim before thematic analysis. Results: Results were arranged around three major topics: (1) Surgery perspectives (2) Support after surgery and (3) Strategies to avoid weight regain. Within "surgery perspectives", three main categories emerged: motivation for change, motivation for surgery, and expectations with surgery's results. In "Support after surgery", the perspective of time (short vs. long-term support), group sessions, frequency of consultations, use of technologies, and the skill mix of the health team were mentioned. Here, the need to include physical activity specialists in the team was found as a major theme, since it also underpins the strategies identified in the topic "strategies to avoid weight regain". Also of importance is the psychological support to help patients deal with the "ups and downs" of post-surgery life as well as the financial support for physical activity programs.

Bariatric surgery patients can make a proactive contribution to the design of new interventions addressed at maintaining surgery outcomes. These new interventions should incorporate a diverse health team, led by a case manager, focusing on supporting the patient in the long term. This research intends to be useful for health professionals to enable the identification of priorities and tailoring of services for the management of bariatric surgery patients.



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P18: Association between academic variables and demand for comfort food among Portuguese University Students

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Higher Education is a period in the life of students characterized by major changes in psychological health, mainly due to the high levels of stress and anxiety to which they are daily exposed. These changes in mental state and concern for body image are factors that contribute to having more intuitive eating habits. Accordingly, the objective of this study was to evaluate the emotional eating of Portuguese university students and relate its prevalence with the psychological factors and lifestyle inherent in the academic path. 195 students participated in the study where the parameters related to emotional eating were evaluated through questionnaires. It was considered the frequency with which the students felt anxious, stressed, unhappy, and/or unmotivated, the evaluation periods, and the consumption of comfort food. It was possible to verify that most students have more emotional hunger in stressful situations and during the evaluation periods there was much preference for comfort food choices. In addition, there was a significant relationship between the consumption of comfort food and body image, mainly due to academic variables and social media addiction. In conclusion, students have high rates of emotional eating, mainly associated with situations of emotional changes due to their academic performance.



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P19: Assessing Well-being Levels in Individuals with Type 2 Diabetes: A Cross-Sectional Study

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Diabetes mellitus (DM) is a complex metabolic disorder influenced by various factors, contributing to long-term complications and impairments that significantly affect the well-being of those affected. Improving the quality of life for individuals with diabetes heavily relies on promoting healthy lifestyles, such as maintaining a healthy weight and adhering to a balanced diet. Notably, Portugal ranks as the second-highest European nation in terms of diabetes prevalence.

This study aimed to evaluate the well-being level in individuals with type 2 diabetes.

The cross-sectional analysis involved 100 participants, 49 with Type 2 diabetes mellitus (T2DM) and 51 without diabetes (WD), recruited by convenience at Associação Protectora dos Diabéticos de Portugal (APDP). Socio-demographic data and the participants' level of well-being (Lifestyle Questionnaire) were collected. The lipid profile was carried out using the LINX DUO POC Multiassay analyser®.

A predominance of women was observed in both groups ($p < 0.001$), the group with T2DM presenting higher age, higher waist circumference (WC), and higher body mass index (BMI) compared to WD participants ($p < 0.001$, for all). The atherogenicity index (TC/HDL), was also higher in the diabetic group ($p = 0.002$). In this study, most of the T2DM participants were diagnosed for more than five years (81.6%). More than half of the participants (57.1%) with T2DM reported a good state of well-being, while only 4% reported a high state of well-being, however, no significant differences were observed between the groups. The well-being level exhibited a positive correlation with age ($\rho = 0.397$, $p = 0.005$), and a negative correlation with WC ($\rho = -0.429$, $p = 0.002$), BMI ($\rho = -0.510$, $p < 0.001$), and the atherogenicity index ($\rho = 0.314$; $p = 0.028$).

This study revealed that T2DM individuals tended to display obesity and a heightened cardiovascular risk, as evidenced by elevated waist circumference (WC) and atherogenicity index. Moreover, these factors appear to adversely affect the well-being of T2DM patients. These results underscore the critical need for innovative, comprehensive lifestyle interventions focused on enhancing weight management and overall well-being in individuals living with diabetes.



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P20: Assessment of Food-Drug Interactions Knowledge among Nutrition Sciences students

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P21: Mediterranean food pattern and nutritional status of children/adolescents who practice sports

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According to current trends, a significant increase in the number of obese children is expected between 2020 and 2035 [1]. As a chronic disease, obesity brings with it several long-term consequences that can arise from excess body mass, including, for example, type II diabetes, metabolic syndrome, and atherosclerosis [2]. It is known that a lifestyle in which physical exercise and a balanced diet are key to disease prevention and consequently to a healthy life. The World Health Organization has therefore considered the Mediterranean diet to be a reference dietary pattern for healthy eating [3].

The objective of this study was to evaluate adherence to the Mediterranean food pattern (MFP) in children/ adolescents who practice sports, as well as relate it to their nutritional status. This is a cross-sectional pilot study in which a directly applied questionnaire was applied for sociodemographic characterization and assessment of adherence to the MFP (KIDMED index). An anthropometric assessment was also carried out to characterize nutritional status. 33 male children/ adolescents aged between 5 and 16 years participated in this study, 63.6% attended the 2nd cycle of basic education, 75.8% were normal weight, and 15.2% had an increased cardiovascular risk/ greatly increased. Around 18% had good adherence to the MFP (score ≥ 10 points). No significant differences were found between adherence to the MFP and nutritional status. It is recommended that a larger study be carried out to allow for more solid conclusions about this relationship. However, this study points to a low prevalence of good adherence to the MFP, and it is, therefore, necessary to consider the possibility of the need to carry out nutritional education sessions to increase adherence to the MFP by these children/adolescents who practice sports.

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P22: Identification and characterization of contaminants of food contact materials and associated risks: Analysis of the reports published in the RASFF portal from 2020 to 2022

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Food Contact Materials (FCM) have been a source of alert and concern for public health. The portal of Rapid Alert System for Food and Feed (RASFF portal) is a key tool for food safety that includes the countries of the European Union, together with a few associated countries. This system ensures the flow of information to enable swift reaction when risks to public health are detected in the food chain. The present work aimed at characterizing the RASFF notifications related to FCM that occurred between the period of January 2020 and December 2022.

A search was performed in the RASFF database, selecting the filter “Product- food contact material” between the period of 1 January 2020 to 31 December 2022. The retrieved data set was directly downloaded in Excel format, and descriptive statistical methods were applied. A total number of 600 notifications was obtained with the application of these criteria.

The results of this study demonstrate that tableware, followed by cooking utensils and cups/mugs, are the product categories that originated the greatest number of notifications. Primary aromatic amines were the contaminant associated with higher health risks and physical particles were the most reported contaminants. China was the country of origin most associated with notifications and Spain was the country that carried out most notifications.

The results of the present study demonstrate that there are still some products with the highest risk of contamination, such as tableware, cooking utensils, and cups/mugs. Many notifications report contamination with melamine, with values higher than those allowed by the EU and member countries that contribute to the RASFF portal. In conclusion, the safeguard of public health from FCM-related hazards justifies the length and scope of scientific and legislative consideration that food has gathered thus far, for the benefit of consumers' health.



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Awards

Best Flash Communication

Flash Presentation #1

Presenter's name: Sofia Ferreira

Team: Sofia Ferreira, Ana Filipa Raimundo, Vânia Pobre, Márcia Garcez, Mafalda Lopes-da-Silva, José Brito, Daniel dos Santos, Nuno Saraiva, Catarina Homem, Cláudia Nunes dos Santos, Regina Menezes

Work's title: Targeting IAPP Aggregation as a Nutritional Approach for Diabetes Management: Exploring Urolithin B-Mediated Protection

Best Poster:

Poster #11

Works's title: The Influence of Economic Inflation on Portuguese Dietary Choices

Team: Carolina Fidalgo, Catarina Antão, Laura Nobre, Cíntia Ferreira-Pêgo

Honorable Mention to Poster Communication:

Poster #20

Works's title: Assessment of Food-Drug Interactions Knowledge among Nutrition Sciences Students

Team: Sofia Beirão, João G. Costa, Cíntia Ferreira-Pêgo



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